IN THE CLAIMS

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

A2

3. A method according to claim 1, including grouping the transition data by the type of element transition.

A3

6. A method according to claim 4, wherein a signal defining a transition is received by one or more receiver coils, including determining the type of transition in accordance with the polarity of the rate of change of the field vector in the direction of the element.

7. A method according to claim 4, including determining information relating to the switching fields for each of the first and second types of transition.

10. A method according to claim 8, further comprising calculating the bias field on the element as substantially the sum of first and second switching fields.

A4

11. A method according to claim 9, wherein the first switching field comprises the mean value of the switching fields for the first type of transition and the second switching field comprises the mean value of the switching fields for the second type of transition.

12. A method according to claim 1, including associating the transition data with one or more respective elements using a receiver vector whose components represent the amplitudes of the signals in one or more receive coils.

13. A method according to claim 1, comprising scanning the tag using a rotating magnetic field.

15. A method according to claim 1, comprising determining the coercivity, the local magnetic field bias resolved in the direction of the or each magnetic element and the orientation of the or each magnetic element relative to a known interrogation field reference frame.

16. A method according to claim 1, further comprising determining the amplitude response of the or each magnetic element to the applied magnetic field.

19. A method according to claim 17 wherein the respective characteristics comprise the coercivities of the elements.

20. A method according to claim 17, comprising storing data by reference to the respective characteristics of the elements.

22. A method according to claim 20, wherein data is storable by reference to parameters relating to any one or more of rate of change of applied field, perpendicular field, response time, characteristic response shape and the statistical distribution of the parameters.

24. A computer program, which when run on a computer, is configured to carry out the steps of claim 1.

27. A tag reader according to claim 25, further comprising means for selecting the element direction which minimises the scatter of transition point field vectors resolved along the direction of the element.

28. A tag reader according to claim 25, wherein the transition data includes data defining first and second switching fields at which at an element undergoes first and second transitions.